Results of Testing

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
2-Chlorotoluene	95-49-8	EEATOX Acute invertebrate toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	*Daphnia magna*	flow-through, 48 hr	0.33, 0.45, 0.72, 1.4, 4.5 mg/L	Not specified	The LC_{50} value for 48 hours with the 95% confidence interval level were 1.1 mg/L and 1.0 - 1.2 mg/L, respectively. The no discernible effect concentration through 48 hours was 0.45 mg/L.	47 FR 54160; 12/1/82 OTS0507447
2-Chlorotoluene	95-49-8	EEATOX Acute fish toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Fathead minnow	flow-through, 96 hr	0.35, 0.75, 1.0, 1.8, 3.8, 9.1 mg/L (measured)	Not specified	The LC_{50} value and its 95% confidence interval was calculated to be 7.5 mg/L and 6.1 to 9.8 mg/L, respectively. The no discernible effect concentration through 96 hours was 1.8 mg/L.	47 FR 54160; 12/1/82 OTS0507449
2-Chlorotoluene	95-49-8	EEATOX Acute fish toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Rainbow trout	flow-through, 96 hr	0, 0.56, 1.1, 2.2, 4.5, 9.0, 10.0 mg/L (nominal)	Not specified	The 96-hour LC_{50} and its 95% confidence interval for the test material was determined to be 2.3 mg/L and 1.8 to 3.0 mg/L, respectively. The no discernible effect concentration through 96 hours was determined to be 0.76 mg/L. This is the highest concentration tested at which there were no mortalities or observed behavioral and/or physical abnormalities.	47 FR 54160; 12/1/82 OTS0507448
2-Chlorotoluene	95-49-8	EEBIOC Metabolite identification in fish	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Fathead minnow	Not specified	Not specified	Not specified	Exposure to (C-14) 2-chlorotoluene were analyzed for C-14 metabolites. Analysis revealed that the majority of radiolabel belonged to the parent compound, 2-chlorotoluene (63-78% of the total C-14 in the fish). The remaining radioactivity was separated by reversed-phase liquid chromatography into four distinct zones containing C-14, none of which contributed over 10% of the total radioactivity.	50 FR 5421; 2/06/85 OTS0507461
2-Chlorotoluene	95-49-8	EEBIOC Fish bioconcentration	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Fathead minnow	flow-through, 22 d	0.100 mg/L (nominal)	Not specified	Steady state was reached on day 7. Mean steady state BCF = 890 ($\pm$ 340)X. Continuous elimination of C-14 residues was observed during the 14-d depuration period, with 87% eliminated by day 14.	49 FR 18779; 5/02/84 OTS0507437
2-Chlorotoluene	95-49-8	EECLIF Embryo-larval test	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Fathead minnows	flow-through, 30 d	6 levels ranging from 0.25 to 7.1 mg/L	Not specified	Survival of larvae exposed to mean measured concentrations of 2.9 and 7.1 mg/L was significantly reduced when compared to controls. No adverse effects on embryo hatchability or survival and growth of larvae were noted. The maximum acceptable concentration of test material for embryos and larvae was estimated to be >1.4 and <2.9 mg/L.	47 FR 54160; 12/1/82 OTS0507450

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
2-Chlorotoluene	95-49-8	EECTOX Chronic study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	*Daphnia magna*	flow-through, 21 d	0.014-0.73 mg/L	Not specified	All test animals exposed to the highest test concentration died within the first 8 days of the exposure period. Test animal survival in the next two highest test concentrations (0.16 and 0.21 mg/L) were significantly reduced as compared to the survival of the control group. The estimated maximum acceptable toxicant concentration (MATC) after 21 days of exposure was >0.21 and <0.73 mg/L.	51 FR 39799; 10/31/86 OTS0510662
2-Chlorotoluene	95-49-8	EFTSPT Dissipation in soil	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Not applicable	C-14 labeled emulsifiable concentrate was applied as a surface spray, then incorporated into top 3 in. of soil 30 minutes after application. Two plots were treated at 1 lb/A and 2 at 2 lbs/A. Soybeans and tomatoes were planted 4 hr after treatment.	Not specified	Not applicable	Less than 1% test material remained on the soil 24 hours after application. Plants grown in treated soil contained no radioactive residues when analyzed 43 days after planting.	OTS0507450
2-Chlorotoluene	95-49-8	HEADME Metabolism study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	intravenous, single dose	0.7 mg/kg	unreported number of females	A single dose of [U-ring-^{14}C] test material was administered to test animals. The test animals eliminated 18 to 69% and 14 to 18% of the label in the urine and expired volatile, respectively. The test material was rapidly eliminated by the test animals within 4 days after exposure.	49 FR5187; 2/10/84 OTS0507459
2-Chlorotoluene	95-49-8	HEADME Metabolism study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	gavage, single dose	320 mg/kg	3 males	The excretion of radioactive unchanged test material in expired air totaled 11.3% after 24 hours (6.1% during 0-3 hours, 3.7% during 3-6 hours, and 1.5% during 6-24 hours). The excretion of radioactivity in the urine and feces were 81.7 and 3.5% respectively. No unchanged test material was detected in the urine, and no radioactivity was extracted from the urine by cyclohexane. Metabolites of ^{14}C-test material were chloro-methyl-ophenylmercapturic acid (22%), 2-chloro alcohol gluconuride (41%), 2-chlorohippuric acid (19%), 2-chlorobenzyl alcohol (1%), 2-chlorobenzoic acid (1%), 2-chlorobenzoic acid gluconuride (1%), and unidentified polar metabolites (1%).	48 FR 34119; 7/27/83 OTS0507354
2-Chlorotoluene	95-49-8	HEADME Metabolism study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	gavage, single dose	1.0 mg/kg	4 male; 4 female	No significant sex-related metabolism differences were found between the males and females. Of the administered ^{14}C, 85 to 92%, 5 to 8%, and 1 to 4% were excreted in the urine, feces, and as volatile ^{14}C, respectively.	48 FR 20132; 5/4/83 OTS0507452

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2-Chlorotoluene	95-49-8	HEADME Diuretic study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	oral (dietary), 4 d	0, 30, 100, 300, 1000 mg/kg/d	unreported number of females	At the 1000 mg/kg/day dose, the test material caused an increase in urine output at 6 and 24 hours after dosing for day 3. Urinalysis showed a statistically significant increase in calcium ion excretion at the 300 mg/kg/day dose level, and inorganic phosphorous excretion at the 1000 mg/kg/day dose level.	50 FR 31919; 8/7/85 OTS0507462
2-Chlorotoluene	95-49-8	HEATOX Acute dermal toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rabbits	dermal, clipped skin was abraded in 3/intact in 3, 1 d	2165 mg/kg	Not specified	Undiluted compound led to no signs of systemic toxicity. The LD_{50} was >2165 mg/kg after a 14-day observation period.	OTS0507354
2-Chlorotoluene	95-49-8	HEATOX Acute inhalation toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	inhalation (head only), 1 hr	63 mg/L vapor	10/sex	No mortalities occurred. The LC_{50} is >63 mg/L.	OTS0507354
2-Chlorotoluene	95-49-8	HEATOX Acute rat and mouse oral toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats and mice	oral, single dose	2165-3951 (rat); 2250-5000 mg/kg (mouse)	10/sex	In rats, undiluted 2-chlorotoluene caused some mortality at all levels The LD_{50} values were 3031 mg/kg for females and 3464 mg/kg for males. In mice, 20% emulsion in 5% alcohol led to LD_{50} values of 3902 mg/kg for females and 3776 mg/kg for males.	OTS0507354
2-Chlorotoluene	95-49-8	HEDIRR Primary dermal irritation	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rabbits	dermal, clipped skin was abraded in 3/intact in 3, 1 d	2165 mg/kg	Not specified	Undiluted compound led to slight edema and erythema at application sites that healed during the 13-day observation period.	OTS0507354
2-Chlorotoluene	95-49-8	HEDSEN Dermal sensitization	Non-TSCA Protocol/Guideline (docket OPTS-42011)	guinea pigs	dermal, 3x/wk for 3 wks followed by 10-d rest period and a challenge application	10 or 25% as acacia emulsion	10 females	Slight erythema and occasional edema, but no indication of contact sensitization were noted with the 10% emulsion. The 25% emulsion caused severe dermal irritation, but no indication of sensitization. Two high-exposure animals died, possibly from bacterial or viral infections entering at irritation sites	OTS0507354
2-Chlorotoluene	95-49-8	HEEIRR Primary eye irritation	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rabbits	eye/animal without rinsing, observed at 1, 2, 3, and 7 hr, 1 d	neat	3/sex	Undiluted compound led to slight conjunctival inflammation that cleared by day 7. No inflammation of the iris was seen. Staining with sodium fluorescent at 24 hours showed 10% corneal surface staining in 1 rabbit.	OTS0507354
2-Chlorotoluene	95-49-8	HEGTOXCHRM Cytogenetic	Non-TSCA Protocol/Guideline (docket OPTS-42011)	Chinese hamster ovaries (CHO)	*in vitro*	0.83-250.0 nL/mL	Not applicable	There were no significant increases in chromosomal damage in the cultures tested up to the toxic dose (83.3 nL/mL in the absence of metabolic activation). In the presence of metabolic activation, there were no increases in aberrations in the test cultures up to 83.3 nL/mL.	47 FR 54160; 12/1/82 OTS0507446
2-Chlorotoluene	95-49-8	HEGTOXCHRM Chromosomal aberration assay	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	gavage, 1x/dy; 5 d,	30, 100, 300 mg/kg	4 male; 4 female	The frequencies of structural aberrations in bone marrow cells of treated test animals did not significantly differ from the negative controls at any of the dose levels for either sex.	47 FR 54160; 12/1/82 OTS0507445

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2-Chlorotoluene	95-49-8	HEGTOXMUTA Mutation assay	Non-TSCA Protocol/Guideline (docket OPTS-42011)	mouse (L5178YTK +/- cells)	*in vitro*	40-90 nL/mL	Not applicable	The test material produced a relative growth of 6.1 to 69.7%. None of the activated cultures produced frequencies of mutations significantly greater than the solvent control Dimethylsulfoxide (DMSO).	51 FR 6468; 2/24/86 OTS0509042
2-Chlorotoluene	95-49-8	HEGTOXMUTA Mutagenicity study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	*Salmonella typhimurium*	*in vitro*	0.02-1.17 µL/plate	Not applicable	The test strains used were TA98, TA100, TA1535, and TA1538. The test material diluted with DMSO did not cause a reproducible positive response in any of the bacterial tester strains, either with or without metabolic activation.	47 FR 36958; 8/24/82 OTS0507442
2-Chlorotoluene	95-49-8	HEGTOXMUTA Mutagenicity study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	mouse (L5178TK +/- cells)	*in vitro*	40-60 nL/mL	Not applicable	Percent relative growth ranged from 19.3% to 58.3% in the absence of activation and 23.8% to 127.8% with activation. The test material did not produce significant increases in mutant frequencies.	47 FR 54160; 12/1/82 OTS0507444
2-Chlorotoluene	95-49-8	HEGTOXTRFM Transformation assay	Non-TSCA Protocol/Guideline (docket OPTS-42011)	mouse (Balb/3T3)	*in vitro*	138.0-1375.0 nL/mL	Not applicable	Relative cell survivals ranged from 100% to 20%. No evidence of dose-related responses were observed at any concentration, with or without metabolic activation.	47 FR 54160; 12/1/82 OTS0507430
2-Chlorotoluene	95-49-8	HERTOXTERA Developmental toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	inhalation, 6 hr/d; 6-19 of gestation	0, 1.0, 3.0, 9.0 mg/L (nominal)	100 females	At 9 mg/L, all parent animals showed brown fur staining, slight to moderate ataxia, and some lacrimination and/or salivation during exposure. Food consumption and mean weight gain were significantly reduced at 9 mg/L. At 9 mg/L, values for litters and mean fetal weight were significantly reduced. There were no significant effects upon litter size, and pre- and post implantation loss. Also, at the high dose, skeletal ossification was reduced, providing an increased incidence of fetuses with sternal variants, and contributing to a significant increase in fetuses with skeletal abnormalities.	48 FR 20132; 5/4/83 OTS0507458
2-Chlorotoluene	95-49-8	HERTOXTERA Developmental toxicity	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rabbits	inhalation, 6 hr/d inclusive of gestation	0, 1.5, 4, 10 mg/L (nominal)	16 females	At the nominal concentration of 10 mg/L, observations included lacrimination, salivation, and ptosis. At concentrations 4 and 10 mg/L, there were significant dose-related reductions in food consumption during the treatment period, which resulted in retardation of mean weight gain between the onset of treatment and day 9 of gestation. There were no significant effects upon mean values for litter size, pre- and post implantation loss, or litter and mean fetal weight. There were no effect upon the incidence of skeletal anomalies and variants.	48 FR 20132; 5/4/83 OTS0507457

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2-Chlorotoluene	95-49-8	HESTOX Subchronic study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rabbits	inhalation, 6hr/d; 14 d	4, 8, 12, 16 mg/L	Not specified	A summary of results is presented. Observations included decreased respiration at 4 mg/L, and at higher exposures, salivation, lacrimation, slight CNS (central nervous system) depression, increased water consumption, and decreased body weight gain. A NOAEL was not identified.	48 FR 34119; 7/27/83 OTS0507456
2-Chlorotoluene	95-49-8	HESTOX Subchronic study	Non-TSCA Protocol/Guideline (docket OPTS-42011)	rats	oral (gavage), 90 d	0, 100, 300, 1000 mg/kg/d	15 male; 15 female	There were no chemical related mortalities observed at any dose level. A slight decrease in body weight gain (300 and 1,000 mg/kg/day), salivation, and excessive urination (1,000 mg/kg/day) were observed.	48 FR 34119; 7/27/83 OTS0507456